



City of DuPont

Citizen's Tree Care Guidelines

February 2017

Disclaimer

This manual is designed to provide general information and guidance on caring for trees in DuPont, WA. It is not intended to replace or supersede provisions of the [City of DuPont Municipal Code](#) and is not to be used as a legal authority for any purpose.

INTRODUCTION AND ACKNOWLEDGEMENTS

The City of DuPont is a community made particularly attractive by the many trees that grow here. From cherry trees lining Center Drive, to the abundant native conifers providing shade on miles of trails, to the majestic centuries old Garry Oaks that harken back to the days of the first settlers, trees beautify our city, increase property values and perform invaluable environmental functions the natural habitats of DuPont.

As our trees continue to mature they will require additional care and maintenance to keep the healthy and structurally sound. The best results will be achieved when the city and its residents act as a team, combining our efforts to keep the trees vigorous.

This manual has been updated through the efforts of the City of DuPont Tree Board:

Councilman Andy Estep, Council Liaison to the Tree Board

Gus Lim, Public Works Director

Kyle McCreary, Tree Board Chair

Mary Verner, Tree Board Member and Past Chair

Mike Farley, Tree Board Member

Payson Danielson, Tree Board Member

We acknowledge the January 2012 Citizen's Tree Care Manual for the City of DuPont that served as the base document for this update. The 2012 Tree Care Manual was compiled largely by Micki McNaughton and other former members of the DuPont Tree Board with funding as some content supplied by the Washington Department of Natural Resources and the USDA Forest Service. Where materials have been updated from other sources, those sources are cited in the text.

TREE BOARD MISSION STATEMENT:

To encourage quality tree care and management in the City of DuPont in order to achieve the benefits and values of a healthy urban forest.

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Section 1: TYPES OF TREES IN DuPONT

Street Trees: Those planted between the sidewalk and the street

Historic, Landmark, and Specimen Trees (HLS): There are a number of HLS trees on residential lots and the DMC contains specific provisions for their retention. (See [DMC Chap. 25-120 "Tree Retention"](#))

- **Historic:** Those trees associated with local historical events such as the works of the first European settlers

- **Landmark:** Those existing, healthy, well-formed trees which pose no safety hazard due to potential collapse and that are of the following species, trunk type and minimum diameter measured at breast height:

TRUNK TYPE	SPECIES	
	Oregon White Oak (Garry Oak), Pacific Yew or Madrone	Douglas Fir, Western Red Cedar, Western Hemlock or Big Leaf Maple
Single Trunk	24 inches	30 inches
Multi-Trunk (sum of diameters)	30 inches	45 inches

- **Specimen:** Those existing, healthy trees which pose no safety hazard due to potential collapse and are of the following species and minimum diameters measured at breast height:

TRUNK TYPE	SPECIES		
	Oregon White Oak (Garry Oak), Pacific Yew or Madrone	Douglas Fir, Western Red Cedar, Western Hemlock or Big Leaf Maple	Historic Fruit Trees
Diameter of Single Trunk or sum diameters of Multi-Trunk	12 inches	15 inches	No minimum diameter

Section 2: INVENTORIES OF DuPONT TREES

In 2011 and 2012 the City of DuPont compiled inventories of the street trees in a significant portion of the city (NW Landing). If you are uncertain as to the type of tree in the planting strip between your house and your street, you may look it up in the inventory. Additionally, you may reference it geographically on the Street Tree Reference Map.

- [2012 Street Tree Inventory](#)
- [Combined Street Tree Reference Map](#)

The 2012 inventory contains a list of species of trees found in DuPont. This list provides key points of information about the individual species as well as links which provide additional information about characteristics and maintenance needs. Finally, with the passing of time it has become apparent that due to narrow planting strips in DuPont certain species are not suitable for urban forestry. The following trees are not recommended for use as street trees in DuPont and their use as landscape trees is highly discouraged:

Common Name	Botanical Name	Concern
Silver Maple	Acer Sacharinum	Soft wood and invasive roots
Western Cottonwood	Populous Fremontii	Soft wood, prone to splitting
Big Leaf Maple	Acer Macrophyllum	Invasive roots
Black Walnut	Juglans Nigra	Invasive roots, toxic to other plants, hulls stain sidewalks
Sweet Gum	Liquidambar Styraciflua	Invasive roots, litter

Additionally, the planting of conifers (fir, pine, cedar...) and fruit bearing trees (apple, pear, peach...) are not recommended for installation in the median strips. A good reference for street trees can be found in the [Seattle Street Tree List](#). If you have questions, contact the [Tree Board Chairman](#).

Section 3: DuPont Municipal Code and Covenants Related to Trees

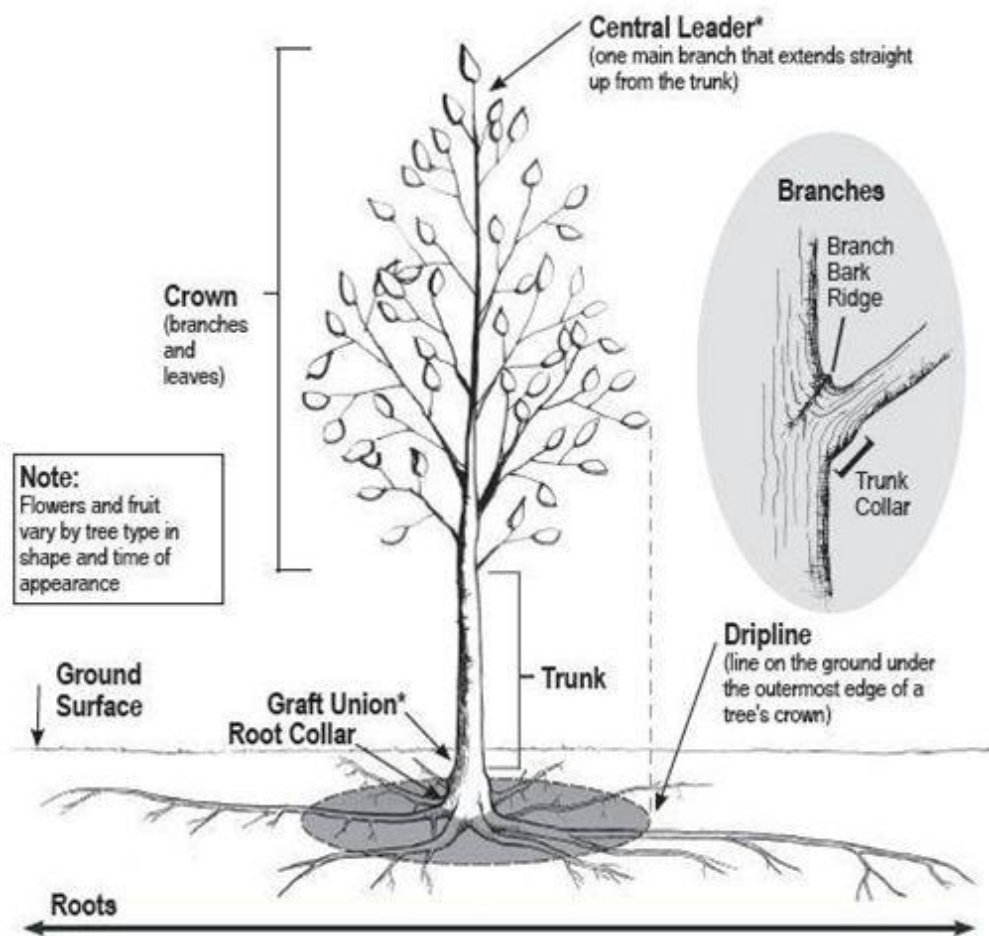
Trees on Private Property: While the DuPont Municipal Code has no restrictions on trees planted on private property, the Northwest Landing covenants for residential property require that homeowners maintain their landscaping “consistent with community-wide standards and all applicable covenants”. Additionally, the Northwest Landing Property Improvement Committee (PIC) does require a review of “Landscape Installation” including a complete plant and tree list, for all front yards and unfenced side or backyards. Prior to installing or changing landscaping in these areas residents

are required to submit a Property Improvement Request Form which can be found on page 10 of the [NWL Residents Handbook](#).

Trees in the Public Right-of-Way (Planting Strips): As it the case in most communities, the responsibility for maintaining plant material in the parking strip within the street right-of-way falls onto the abutting property owner. By mowing the grass, removing trash and debris, etc., each property owner plays an important role in maintaining the character and street appeal of our community. In most areas, the parking strip includes street trees which require maintenance and care to keep them healthy. While city crews will strive to keep up with trimming street trees to maintain clearance on sidewalks and streets, the bulk of the responsibility resides with the property owner. Trees must not be allowed to obstruct freedom of movement nor present a potential hazard to pedestrian or vehicular traffic.

Section 4: Basic Tree Biology

Guidelines for planting, care and maintenance of trees are based on both scientific principles of biology and the accumulated experience of generations of gardeners and arborists. A basic knowledge of scientific principles can help the residents of DuPont understand the contents of these Tree Care Guidelines.



Roots: Roots gather nutrients and water to keep the tree alive and growing. They also anchor the tree to the ground and prevent it from falling over.

When planting a tree, it is important to realize that eventually the roots will expand to cover an area two to four times larger than the crown (branches). As a rule of thumb, when planting a tree you can influence the direction in which the main roots grow and thereby prevent them from cracking and lifting the sidewalk.

Root Collar: The root collar is the part of the trunk just above the ground. To allow roots to breathe, it is important that the root collar, and the area around it, not be covered by soil nor an impermeable mulch.

Graft Union: Nearly all fruit trees and many cultivars of shade trees, are propagated by having the desired variety of tree grafted on the root stock of another variety. There are several reasons for this to include reduction of size of the overall tree (dwarfing) or to provide a more vigorous root system to improve the overall health and vigor of the desired cultivar.

Often, if a tree is injured or diseased, the rootstock will begin sending up shoots known as “suckers”. These suckers are undesirable as they generally are genetically dissimilar to the grafted tree. Suckers should be removed immediately so as not to draw vital nutrients from the crown.

Trunk and Central Leader: Trees with a straight, strong central leader are the ones least likely to have large limbs break off in wind or snow storms, causing damage to vehicles, fences or houses and leaving large wounds in the tree which compromise its health.

A major objective of early pruning is to develop a single leader and avoid forming “co-dominant” stems as shown in the attached photo.

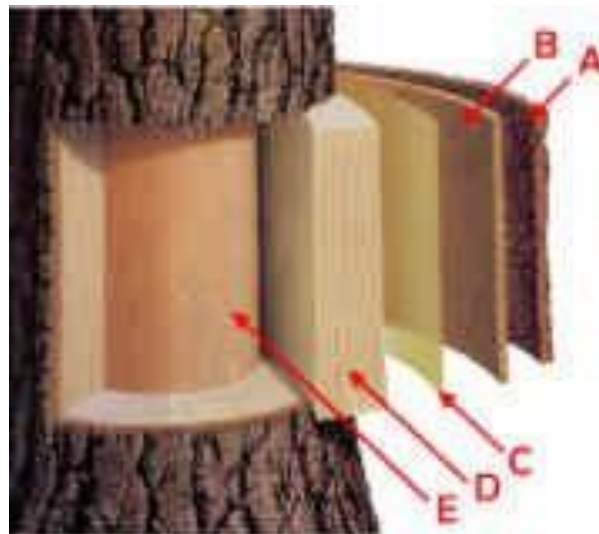


Later, as the tree matures, additional pruning of side limbs will continue to form the crown far enough above the sidewalk and street to provide clearance for people and vehicles.

Bark: Bark is the outer protective skin of the tree. Directly under the bark are the layers of tissue that carry water and nutrients between the roots and the leaves. They function much like our blood vessels, and damaging them can be equally as serious.

Another layer under the bark called the cambium. Cambium cells are growth cells and — if tree-trimming is done properly — quickly heal over places where branches have been pruned off.

- A. Outer Bark
- B. Inner Bark or phloem which passes food to the rest of the tree
- C. Cambium, a thin layer of tissue where active growth and repair take place
- D. Sapwood (green wood) layer which carries water up to the leaves and crown
- E. Heartwood (core) is the supporting pillar for the overall structure of the tree. Is the portion that can be used as lumber



Crown: The structure of branches and twigs that grow from the trunk is referred to as the crown. Different species or varieties of trees have different natural shape to their crowns, but sometimes need pruning to prevent problems in our neighborhoods or to protect them from damage in windstorms.

Collars: Collars are formed where branches grow out from the trunk (or trunks). Collars contain special cells that help trees prevent disease or rot from spreading further out on the limb. It's very important to not injure the collar when pruning so that the wound will callus over properly and protect the tree's heartwood from pests and disease.

Drip Line: The drip line is an imaginary line on the ground that follows approximately the edge of the crown. This "Critical Root Zone" needs to be protected from compaction by vehicles or construction activity.

Section 5: RIGHT TREE IN THE RIGHT PLACE

Planting and maintaining the right tree in the right place will result in a healthy tree over the long-term and fewer property maintenance problems in the future. Conversely, the planting the wrong tree in the wrong place can result in loss of vigor, maintenance issues and safety hazards.

Most of the street trees in Northwest Landing were selected and planted by the developers, and while most have excelled in their jobs — providing shade, enhancing the city's appearance, increasing property values and making our summers more cool — some have created tripping hazards in sidewalks, dropped large limbs during windstorms, or stained sidewalks or parked vehicles with sap dripped by insects.

The City is committed to replacing trees that are not the right species in the right place. In 2016 the City of DuPont established a municipal tree nursery the "DuPont Neighborhood", in order to provide a cost effective means of producing species suitable for use as street trees or for use in private and

public urban forestry projects. In the meantime, to ensure our street trees present their best qualities and to minimize potential problems, both city employees and residents are asked to participate in thoughtful planting and proper care and maintenance of our existing trees.

Section 6: CARING FOR EXISTING TREES

Our streets and yards are not natural environments for trees; therefore, we need to provide them with more care than they would need in their natural settings.

Watering - For the most part, only newly-planted trees require regular watering as they don't have their root systems well enough established to deal with the heat and dry weather of our summers. Five gallons per week has been given as one rule of thumb. However, even for young trees there is a danger of over-watering — keeping the soil so wet that the roots don't have enough oxygen to take up water and nutrients. You can check soil moisture using a garden trowel, inserting it about 2" into the ground and moving it back and forth to make a slot where you can feel the soil moisture with your fingers.

Trees which have been established for three years or more do not generally need regular watering. If they are experiencing stress during hot or extended dry periods in the summer, this will show up in the leaves. They will have a dry, rustling sound in any breeze and you may notice the leaf edges and tips curling up. To water an established tree, a "deep watering" is recommended.

Traditionally, homeowners would deep water a tree by putting a garden hose near the dripline and only turning the faucet on slightly. Since most of our outdoor faucets are equipped with backflow preventers, this doesn't work. Instead, the same effect can be gained by either use of a drip hose or by drilling several holes in the bottom of a 5-gallon bucket and filling it several times over the course of a day.

Protecting bark - Since the cells which make up the "circulatory system" of the tree lie just below the bark, it's important to avoid damaging the bark. Aside from weather damage from limbs being torn off, most bark damage in DuPont comes from either lawn mowers or weed whackers. Careless use of a weed whacker can actually kill a tree if enough of the bark is damaged.

Mulch - A layer of wood chips help retain moisture around the roots. In addition, mulch can protect the bark on exposed roots from damage from lawn mowers and foot traffic. It's important that any mulch will allow air circulation down to the soil.

Fertilizing - Most residential or street trees don't need additional fertilizer; only those which are undergoing stress due to drought, damage to roots or other parts of the tree, or from severe pruning.



Credit: City of Tacoma

If you're applying fertilizer to help a newly-planted tree, use a quick-release fertilizer. It's important that you don't mix the fertilizer with the planting soil since direct contact with the fertilizer can burn the roots. Instead, broadcast the fertilizer on the surface of the

soil and then water it in. For new plantings, try to use a fertilizer which is low in nitrogen because nitrogen encourages course growth above ground and initially you want to encourage overall health and strong root growth. Fertilizer packaging will show a three number rating. These three numbers represent the primary nutrients (nitrogen (N) – phosphorus P) – potassium (K)). This label, known as the *fertilizer grade*, is a national standard. A bag of **10-10-10** fertilizer contains **10** percent nitrogen, **10** percent phosphate and **10** percent potash. To remember which part of the tree the three nutrients stimulate remember N-P-K “**Up - Down- All Around**”. For established trees, early Spring is the best time to fertilize since it makes the added nutrients available when the tree is putting out leaves and new growth. In Spring, a balanced fertilizer is recommended.

Pest Control - There are several diseases or pests that affect trees in DuPont. Some are more of a threat to the tree's health than others; some are more of an annoyance to homeowners. These common pests, and some ways to prevent or control them, are described more fully in [USDA- Tree Pests and Diseases in Western Washington](#).

Pruning - Pruning is one of the more complex tree-care activities; performed incorrectly, in can kill or permanently disfigure a tree. This topic is covered more fully in the National Arbor Day Foundation's publication [When to Prune](#). The most common on-going reasons for pruning are to remove branches that have become a risk or nuisance, or to address damage caused by wind and weather. Please note that topping street trees (significantly reducing the height) is not permitted under the DuPont Municipal Code.

Section 7: THE RIGHT TREE PLACED RIGHT

Selection: Choosing a tree to plant in your yard or in the planting strip in front of your house is not easy. Several factors need to be taken into consideration including species, size, hardiness, growth rate. Depending on the tree you buy it may look significantly different when first planted than it will five or ten years in the future.

A common mistake is not taking into consideration permanent features such as buildings, sidewalks, power lines driveways. While the tree may look good, initially, over time it may become a nuisance.

Species: Take the time to research the tree before you purchase. Several excellent references are available-:

- [2012 Street Tree Inventory](#)
- Seattle's list of “Trees for small spaces” in its [Street Trees Planting Guide](#)
- The National Arbor Day Foundation's [Choosing the Right Tree](#)

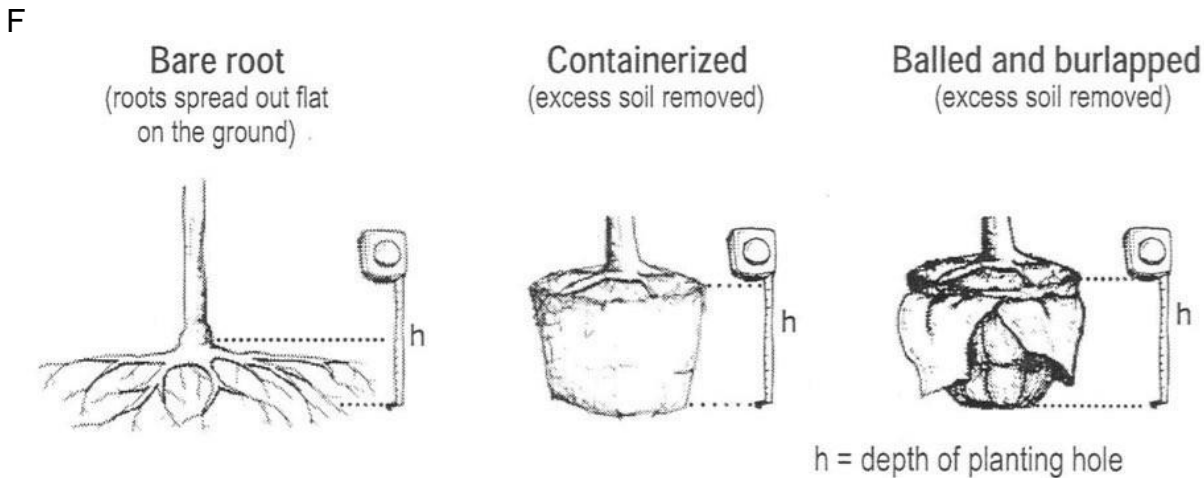


- Get advice from a commercial nursery or garden center. There are a number of truly wonderful nurseries and garden centers in our area, and each one has a staff of highly knowledgeable plant experts available to answer questions. Usually, a nursery or garden business will want to protect its reputation by stocking only strong, healthy and well-formed trees.

Size -

Once you've decided on the type of tree most suitable for your situation, you will have the question of what size to buy. A tree that's two-and-a-half inches in trunk diameter will cost significantly less than one that's six or more inches in diameter. This decision is, of course, a classic one of cost/benefit. Saving a few dollars this year may mean spending several years wishing the tree would hurry up and grow. On the other hand, there is the budget to consider...

One factor that will tilt the decision is location. Replacing a street tree means you can't start too small because the crown won't be high enough to provide clearance for the sidewalk and/or street. [See [Section 14.04.70 DuPont Municipal Code](#) to ensure you get it right.] Depending on the size of tree you intend to buy, there will be three basic choices of "packaging" –



Containers are a very common and convenient way to buy trees. The most important caution is to ensure the tree hasn't been in the container for so long it has become root-bound. The National Arbor Day Foundation published an outstanding article for reference entitled [Planting Containerized Trees](#).

Bare-root trees can be obtained from nurseries and tree farms but require special handling to ensure viability. The best time of the year to plant bare-root trees depends upon the species but generally speaking, any time after the first hard frost and before bud-break in the spring is acceptable. More about bare-root planting can be found at [Planting Bare-Root Trees](#).

Ball and Burlap (B&B) is a technique in which a portion of the roots and surrounding ball of soil has been dug out and wrapped in fabric. In selecting a balled-and-burlapped tree, it's important to check on the condition of the ball — that it has been kept sufficiently moist and hasn't been cracked or broken. It is important to understand that though burlap is pervious to water and the roots can emerge the fabric it is always best to remove the twine and burlap before planting. Often times the roots become wrapped around each other and the tree can actually strangle. Please refer to the National Arbor Day Foundation's article [Planting Balled and Burlapped Trees](#) for tips on planting a B&B tree.

Whether it's better to buy a tree in a container or B&B'ed, the answer is Always, "it depends." There are pros and cons for both. The decision should probably come down to which tree you like best.

Condition –

It is always best to avoid co-dominant stems or "forked" trees at all costs. Any tree you intend to plant along a street or sidewalk will need to have a central leader to keep the crown sufficiently above pedestrians or vehicles. However, trees will sometimes come with two central leaders of approximately the same size. This can seem fairly harmless when the tree is small and vigorous; unfortunately, as the tree matures and the weight of the crown increases, the crotch between the two stems can begin to separate. This is the cause of many of the severely storm-damaged trees on our streets. The photo shows what happened when water seeped into the separating crotch of this tree on Palisade, weakening it to the point of failure in a wind storm.



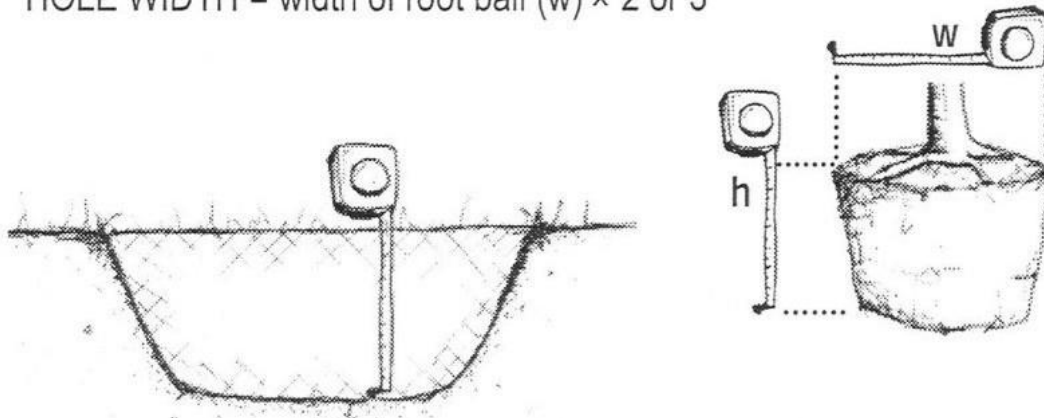
Planting Techniques -

Call Before You Dig! 811 or (800) 424-5555. Damaging underground electrical lines, gas lines or fiber optic cables can be both dangerous and expensive. The "utility locate" service is free.

Digging the hole –

The hole should be, at the very least, twice the size of the ball/container/ root system in order to facilitate root development. The longer a tree has to struggle to establish itself, the lower its chance of survival.

HOLE DEPTH = height of root ball (h)
HOLE WIDTH = width of root ball (w) × 2 or 3



The depth of the hole is very important. The goal is to plant the tree only as deep as the roots up to the root flare; any deeper and the roots won't get enough oxygen; too shallow and the roots will be subject to damage.

Preparing the tree –

- Remove all wrappings and tags from the trunk and branches.
- Prune off any dead, diseased, broken or rubbing branches
- Poke around in the top of the dirt ball to locate the top structural root, and clear away all dirt above that root. This will give you a clear guideline as to how deep to plant the tree.
- Identify how you want to orient the tree — which side faces which way. If the tree is going into the planter strip between the street and sidewalk, this is an opportunity to guide the larger roots away from the sidewalk. (To further protect the sidewalk, consider installing root barrier.)

Placing the tree in the hole –

- Do NOT lift the tree by its trunk. Lift the tree by the container or rootball. For larger trees, you may want to use a hand-truck or tip the tree to one side and roll it — gently — into the hole. The important thing is to not break the rootball.
- If planting a containerized tree, remove the container and “massage” the roots to loosen. Spread the roots out in the hole and clip any roots that circle around or are kinked.

A tree that has been in the container too long — for an entire growing season or more — may be “pot-bound” (the outside of the rootball will be a mass of fibrous roots). Making five or six vertical cuts through this mass with a sharp utility knife will help the tree break out of its confinement.

Adding soil –

The general rule is to back-fill with soil taken out of the hole. This doesn't always work well in DuPont because many lawns and planting strips have little, if any, real topsoil. Give a tree a good start by using a good quality topsoil to back fill the hole.

Fertilizing –

Use a quick-release fertilizer to help a newly-planted tree. It's important that you don't mix the fertilizer with the planting soil since direct contact with the fertilizer can burn the roots. Instead, broadcast the fertilizer on the surface of the soil and then water it in.

“Mudding in” –

By thoroughly watering the newly-planted tree, you eliminate any air pockets in the soil and ensure that it's being held securely in its upright position.

Staking –

Stakes with soft bindings (no metal or sharp edges against the bark) can be used to support or protect the newly-planted tree. (Wrapping the trunk – It was once that the trunks of newly-planted trees should be wrapped, under the theory that they needed protection while getting established. Like many theories, that one didn't hold up under actual experience and in fact was detrimental to the trees' health.)

Mulching –

Any mulch applied around a tree should be of air-permeable material such as wood or bark chips. A layer of mulch provides several benefits:

- Reduces the loss of soil moisture and reduces competition for water by weeds or grass.
- Keeps soil temperatures even, reducing extremes of heat or cold.
- Protects the trunk and shallow roots from damage by mowers, weed whackers and foot traffic.

Section 8: CARE OF NEWLY PLANTED TREES

Watering –

Simply put: overwatering kills more young trees than drought. The roots definitely need water, but they also need to breathe. The soil should be kept moist but if kept too wet, the roots drown.

Avoid soil compaction around roots –

Foot or vehicle traffic, for example, can pack soil tightly enough around the roots so that they can't breathe or take up water.

For additional information refer to the National Arbor Day Foundation's guide [Tree Care Tips](#).

Section 9: TREE REMOVAL

Sometimes even a beloved tree needs to go.

- As a tree begins dying as a result of disease or insect infestation, it can pose a danger to people or buildings. Since it's not a question of "if" it will come down, but only "when," the responsible thing is to take down the tree in a way that prevents damage or injury.
- Trees that have been severely damaged by wind or weather can struggle for years and never recover their vigor or appearance. The sooner they are replaced, the more quickly their replacement can catch up with the rest of the trees on the street.
- A tree whose roots have begun to heave the sidewalk isn't going to stop doing it, and the situation will only get worse.



City Requirements –

Before a street tree or a landmark tree can be removed, the City must review and approve the plan. You may submit your application online by using the [Tree Permit Application](#).



Who can/should remove the tree –

Professionals in the timber industry will tell you, "Anyone can cut down a tree. If you cut on it long enough, the tree will eventually come down. The trick is getting the tree to fall where YOU want it to, not where the tree wants to."

That's one of the strong arguments in favor of hiring a



professional tree company to do the removal. Other strong arguments include the fact that the company should also have the equipment to grind out the stump, remove all of the wood, and thoroughly clean the site before they leave.

Section 10: HIRING A PROFESSIONAL

As with all endeavors, sometimes it is best to call a professional. Due to the risks involved, tree removal is something best left to a pro. However, there is a very significant difference between someone who will prune or remove a tree just for the money, and someone who has the experience and qualifications to do it the right way and while charging a fair rate for the service. Some property owners hesitate to hire a professional tree company because they anticipate it will cost a lot of money. In fact, the rates charged for tree and stump removal in DuPont have been quite reasonable. Calling two or more companies to get estimates will help you decide for yourself. In any case, it's always a good idea to check the company's credentials.

The first step is to visit the company's website. A good, reputable company will provide essential information:

- Professional association membership, such as the [International Society of Arboriculture](#) or [Tree Care Industry Association](#)
- Better Business Bureau link
- Bonding information, to ensure you're not going to be financially liable for any property damage that may occur.
- References, testimonials from clients

You also can use the website maintained by the Washington State [Department of Labor and Industry](#) to verify the company's license information, status of their workers' compensation account, and any safety violations or claims against their bond.

Section 11: FINAL THOUGHTS

The material in these Guidelines is intended to provide residents of DuPont with some basic information and guidance on the care and maintenance trees. However, there is a great deal of additional information available on the Internet and at local garden centers. All of this information will become more valuable to residents as they see the benefits — both economic and aesthetic — of preservation of our urban forest. .